

Written Amendment

(under Article 11 of the Japanese Patent Law)

To Commissioner of the Patent Office

(To Mr. Junya GOTO, Examiner at the Patent Office)

1. Identification of the International Application

PCT/JP2004/004045

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4. Object of Amendment: Claims

5. Contents of Amendment

Claims 3 to 5 are amended as per attached sheets. Amended claim 3 is directed to the invention that has been defined in original claim 4. Amended claim 4 restricts amended claim 3 as follows: "a connecting portion between the sensor signal substrate and the cable substrate that is covered with the sensor ground substrate or the relay ground substrate" is "the

entire connecting portion.” Claim 5 is amended so as to depend on “claim 1 or 4” instead of “claim 1.”

6. List of appended documents

(1) New sheets for pages 19, 20, and 20/1 (corresponding to pages 20 and 21 of the English translation) of the claims 1 set

CLAIMS

1. An ultrasonic probe, comprising: an ultrasonic element for transmitting and receiving an ultrasonic signal; a signal line for transmitting an electric signal to or from the ultrasonic element; and a ground line for supplying a ground potential to the ultrasonic element, the ultrasonic probe further comprising:

a sensor signal substrate and a sensor ground substrate connected electrically with the ultrasonic element; and

a cable substrate for electrically connecting the sensor signal substrate and the sensor ground substrate with the signal line and the ground line, respectively,

wherein the sensor ground substrate and the cable substrate are connected directly or via a relay ground substrate, and

at least a part of the cable substrate is covered with the sensor ground substrate or the relay ground substrate.

2. The ultrasonic probe according to claim 1, wherein at least a part of the sensor signal substrate is covered with the sensor ground substrate or the relay ground substrate.

3. (Amended) The ultrasonic probe according to claim 1, wherein a connecting portion between the sensor signal substrate and the cable substrate is covered with the sensor ground substrate or the relay ground substrate.

4. (Amended) The ultrasonic probe according to claim 3, wherein the connecting portion between the sensor signal substrate and the cable substrate is covered with the sensor ground substrate or the relay ground substrate entirely.

5. (Amended) The ultrasonic probe according to claim 1 or 4, wherein at least a part of the ultrasonic element is covered with the sensor ground substrate or the relay ground substrate.
6. The ultrasonic probe according to claim 5, wherein an ultrasonic wave transmitting/receiving surface of the ultrasonic element is covered with the sensor ground substrate or the relay ground substrate.
7. The ultrasonic probe according to claim 6, wherein the ultrasonic wave transmitting/receiving surface and peripheral surfaces of the ultrasonic element are covered with the sensor ground substrate or the relay ground substrate.
8. The ultrasonic probe according to claim 6, wherein a plurality of grooves are formed in a portion of the sensor ground substrate or the relay ground substrate that covers the ultrasonic wave transmitting/receiving surface of the ultrasonic element, the grooves dividing the ultrasonic element electrically into a plurality of oscillators.
9. The ultrasonic probe according to claim 6,
 wherein the sensor ground substrate is arranged so as to surround a periphery of the ultrasonic element, the sensor signal substrate, and the cable substrate, and
 a portion of the sensor ground substrate that is drawn over a surface of the ultrasonic element other than a surface connected with the sensor signal substrate is connected with the cable substrate or a part of the sensor ground substrate.